



( 2 )

- (b) What is significant figure? Give the significant figure of the following data : 7
- (i) 0.800
  - (ii) 1.00
  - (iii)  $1.05 \times 10^{-6}$
  - (iv) 0.051
  - (v) 43.00
- (c) Discuss the Propagation of Error. 3

**Unit-II**

2. (a) What is chromatography technique? Write in detail its classification and applications. 5
- (b) Discuss the solvent extraction factor and its importance. 5
- (c) Discuss the principle and methodology of Gas chromatography. 10

**OR**

- (a) Define the term : synergic extraction and distribution co-efficient, countercurrent extraction and retardation factor. 10
- (b) Discuss the principle and methodology and application of thin layer chromatography. 10

**Unit-III**

3. (a) Discuss the principle and methodology of flow injection analysis. 10

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(Continued)

( 3 )

- (b) Discuss the factors affecting and application of TGA. 6
- (c) Explain the terms residence time and detector. 4

**OR**

- (a) What is automated method? Give the advantages of automated method. 8
- (b) What is gas diffusion method? Discuss the analysis of ammonium ions by the FIA method. 6
- (c) Discuss the principle and methodology of DTA technique. 6

**Unit-IV**

4. (a) Write short notes on the following : 10
- (i) Amperometric titration
- (ii) Ilkovic equation
- (b) Discuss the principle and instrumentation of the coulometry. 10

**OR**

- (a) Discuss the principle, instrumentation and application of the cyclic voltammetry. 10
- (b) Explain the term: Diffusion current, square wave polarography and equivalent conductance. 6
- (c) Discuss about polarized electrode and micro electrode. 4